KAI LIN CHANG

Oct 20, 2015

CS210, 4:00 – 5:15 Tue/Thur.

Professor Bob Wilson

Lab 4

import java.util.\*;

import java.io.\*;

import javax.swing.\*;

public class BalanceCheck

{

public static void main(String [] args)

{

Scanner file = null;

JFileChooser myChooser = new JFileChooser();

int status = myChooser.showOpenDialog(null);

try

{

file = new Scanner(myChooser.getSelectedFile());

}

catch (Exception e)

{

System.out.println("Can not open File");

System.exit(0);

}

// instantiate a stack to hold wrapper class Character objects

// 1. add a line of code here to do that

Stack<Character> checkDelimiter = new Stack<Character>();

char c1 = ' '; // current character from the line

char c2 = ' '; // last {, (, or [ character (from stack)

boolean error = false;

while (!error && file.hasNext())

{

String line = file.nextLine();

for (int i = 0; !error && i < line.length(); i++)

{

// 2. add code here to do the balance check using the stack

c1 = line.charAt(i);

if (c1 == '{' || c1 == '(' || c1 == '['){

char temp = checkDelimiter.push(c1);

}

if (c1 == '}' || c1 == ')' || c1 ==']'){

char lastStack = checkDelimiter.peek();

if (c1 == '}' && lastStack == '{' ||

c1 == ')' && lastStack == '(' ||

c1 == ']' && lastStack == '['){

c2 = checkDelimiter.pop();

}

else {

error = true;

c2 = checkDelimiter.peek();

break;

}

}

}

}

// 3. add code here to print the results of the balance check

if (error){

System.out.println("mismatched pair " + c1 + " and " + c2);

}

if (!error && checkDelimiter.empty()){

System.out.println("the balance check is OK");

}

if (!error && !checkDelimiter.empty()){

System.out.println("there are missing closing delimiters");

}

}

}

1. What results did your program provide for each of the test case files?  
     
   For each three tests files, it shows mismatched pair } and (,there are missing closing delimiters, and the balance check is OK, respectively.

1. Study the nesting of the delimiters in each file. Did your program correctly identify the problem in the two bad files?

Yes, my program can identify the three files correctly.